

REMARKS/ARGUMENTS

Claims 1-15 are currently pending in this application. Claims 1, 6, 9, 15 are amended for the first time herein. All the remaining claims are original and are unchanged from their original filing.

Claim 15 has been amended to correct subject-verb agreement. No new matter is added. Claims 1, 6, and 9 have been amended to explain that the sensor signals referred to in the claims are signals from the actual sensor referred to in the claim. Since the process described in the specification describes an actual sensor, these amendments are supported by the specification and no new matter has been added.

In FIGURES 1, 4A, 4B, 5, and 6, words and numerals previously written by hand in the as-filed FIGURES have been deleted and replaced with words and numerals written by a computer. Furthermore, words that had been deleted by marking through and replaced by handwritten words in the as-filed version have been replaced with computer generated words. Copies of the amended FIGURES are provided herewith in the form of substitute sheets.

A supplemental sheet with a new FIGURE 9 is attached herewith. Support for the new FIGURE can be found on page 17 at lines 9-21.

The Declaration as filed is not defective. The addresses (both residential and post office) were provided on the original declaration. However, for the Examiner's convenience, we have copied the relevant information into an application data sheet at the Examiner's request and provide it herewith.

Rejections of the Claims

The Examiner rejected independent claims 1 and 9 under 35 USC 103 based on Badami, and Baraszu and rejected independent claim 6 under 35 USC 102 based on Badami alone.

Badami, the primary reference, teaches a process of developing a lookup table or membership functions or calibration table that is stored in an electronic controller. This is done during product development. Once this data has been compiled, it is loaded into a

controller on a completely new washing machine with completely new water level and motor torque sensors. This new machine is shipped out to the consumer for use. Thus, the consumer's washing machine and sensors (i.e. the washing machine that performs the step of washing in Badami) does not perform the Badami calibration steps. Badami's calibration steps are presumably done by some laboratory device having laboratory sensors.

Claim 1 recites a "method for determining the validity of a sensor signal of a sensor" including the steps of "*providing an estimated sensor signal of the sensor*" and "*processing the sensor signal using the fuzzy logic membership function to determine whether the sensor signal is valid or not.*"

Badami describes two sensors in the commercial washing machine: a water level sensor 116 that provides a signal indicative of a water level in a washing machine tub, and a motor torque sensor 122 that provides a signal indicative of the torque generated by the motor that oscillates the washing machine tub.

Regarding claim 1, nowhere do Badami and Baraszu "provide an estimated sensor signal" for either of the two sensors: the water level sensor and the motor torque sensor.

Further regarding claim 1, nowhere do Badami and Baraszu question or consider the validity or invalidity of these sensor signals. Nowhere do Badami and Baraszu intimate that the sensor signals may be flawed or otherwise untrustworthy. Nowhere do Badami and Baraszu ever "*determine whether the sensor signal is valid or not*". Nowhere do Badami and Baraszu "process" either of the two sensor signals (water level or motor torque) using any of the Badami membership functions to determine the "validity" of anything.

Badami merely uses the motor torque sensor signal and the water level sensor signal to look up corresponding values indicating the composition of the fabrics being washed. The fabric composition values produced by the membership functions do not indicate the validity of the motor torque sensor signal or the water level sensor signal.

Claim 6 is directed to a "method for determining the quality of a sensor signal of a sensor" and requires the step of "providing a first cumulative scatter value indicative of a

cumulative degree of difference between a plurality of sensor signal values of the sensor and estimated sensor signal values of the sensor corresponding to each of the sensor signal values.”

Nowhere does Badami estimate the signal values of either the motor torque sensor or the water level sensor. Badami merely retrieves the sensor signal values from the sensors themselves and uses the raw sensor signals to look up a corresponding estimated fabric blend. Nowhere does Badami take a difference between any sensor signal value and any estimated sensor signal value. Nowhere does Badami mention anything indicating a “*difference between a plurality of sensor signal values of the sensor and estimated sensor signal values of the sensor corresponding to each of the sensor signal values.*”

Claim 9 calls for a “method of individually determining whether a plurality of sequential sensor values of a sensor are valid”. It includes the step of reading a sensor value of the sensor and determining a *degree of difference between the sensor value and an estimated sensor value of the sensor.*

Neither Badami nor Baraszu disclose determining a degree of difference between the sensor value of the sensor and an estimated sensor value of the sensor.

Neither Badami nor Baraszu disclose a “membership function” that “responds to the *degree of difference as an input and produces a signal indicative of the validity* of the sensor value as an output.” The membership functions the Examiner points to in his rejection use a motor torque signal from a motor torque sensor (or a water level signal from a water level sensor) as an input and produce a signal indicative of a mixture of clothing types as an output. A motor torque signal is not “a degree of difference” and a calculated mixture of cotton and polyester clothes is not a “signal indicative of ... validity”.

For at least the above reasons the Applicant respectfully requests that the Examiner withdraw his rejection of the claims.

In the event the Examiner does not withdraw his rejection, the Applicants need a concise explanation of the Examiner’s rejections to prepare their Brief on Appeal.

In particular, we ask the Examiner to identify (1) precisely what the “estimated” sensor signal is and where the sensor signal is “estimated”, (2) where Badami describes taking the “difference” between an estimated signal and an actual signal, (3) what value the Examiner considers to be the Badami standard deviation of this difference, (4) where Badami mentions taking this standard deviation, (5) where Badami scales the points of deviation “proportional to” this standard deviation, (6) where the Examiner finds those “points” on the Badami illustrated membership functions, (7) where Badami determines the validity of the sensor signal (and which sensor signal that is) based upon processing the signal with the membership function, (8) what the value is that the Examiner deems is a “difference”, and (9) where that value is used as an “input” to a “membership function” to get an output indicating “validity” of the sensor signal.

We believe the claims are in condition for allowance. If a telephone call would advance the prosecution of the case, the Examiner is cordially invited to contact the undersigned attorney for the applicants.

Respectfully submitted,

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By  4/14/04

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Attachments